ABB CI858K01 3BSE018135R1

ENGINEERING GUIDE / field replacement and commissioning

ABB CI858K01 3BSE018135R1 is an AC 800M DriveBus communication interface kit consisting of the CI858 module and TP858 baseplate. It connects an AC 800M controller to ABB drives over the optical DriveBus arrangement.

01 Job scope and safe-work boundary

Offer the CI858 communication interface with TP858 baseplate as the complete CI858K01 kit; confirm both markings and any included accessories in the quotation.

Kit identity	Verify the CI858 module and TP858 baseplate are both present in the offered CI858K01 kit.
CEX-Bus isolation	Follow the controller maintenance procedure before handling the module or baseplate.
Optical inspection	Keep optical contacts clean and match each drive link to the approved topology.
Branching unit	Check the NDBU arrangement when more than one drive is connected.
Controller limits	Confirm the installed CEX-Bus allocation and approved AC 800M configuration.
Functional proof	Check every configured drive node, diagnostics and restart behavior before release.

Before work starts

Record the complete marking, installed host configuration, connected interfaces and the as-found operating result. Follow the approved site isolation and maintenance procedure before changing the unit.

Environmental and configuration limits

Typical 24 V consumption	200 mA
Hot swap	Supported
Line redundancy	Not provided
Module redundancy	Not provided
High Integrity controller use	Not supported
Operating temperature	0 to +55 °C

02 Readiness and fit

Order identity	CI858K01; article 3BSE018135R1
Kit contents	CI858 communication interface plus TP858 baseplate
Controller family	AC 800M
Bus protocol	ABB DriveBus
Communication role	Master interface
Transmission speed	8 Mbit/s
Physical connector	Optical
Drive capacity	Up to 24 ABB drives per CI858

Controller interface capacity	Up to two CI858 modules per AC 800M controller
Branching requirement	NDBU branching unit when more than one drive is connected
Power path	Supplied from controller through CEX-Bus

Why these checks matter

Kit versus module
CI858K01 names the module and TP858 baseplate together; verify both when receiving the unit.

Host power path
The interface obtains operating power from the AC 800M CEX-Bus, so host fit must be checked.

Optical network
Inspect clean optical terminations and the documented route before deciding a board has failed.

Multi-drive topology
An NDBU branch arrangement is required for more than one drive; retain the logical bus map.

Capacity planning
Check both the drives-per-interface count and the interfaces-per-controller limit.

Hot-swap boundary
Supported hot swap does not remove the need for process isolation and a site change procedure.

Resilience review
No module or line redundancy is specified for this interface.

Host restriction
Do not infer use in a High Integrity controller from generic AC 800M compatibility.

Acceptance evidence
Record module/baseplate identities, branch paths and node diagnostics after installation.

03 Replacement sequence

01	**Record the baseline**	Save the installed marking, host/project configuration and current operating result.
02	**Verify the offered identity**	Compare the offered assembly and its supplied components with the installed unit.
03	**Prepare the interface**	Inspect connectors, routes, mounting and the documented host allocation.
04	**Fit and reconnect**	Use the approved site procedure and restore each documented connection in order.
05	**Restore configuration**	Load or retain the approved project and node assignments as applicable.
06	**Prove operation**	Test the used functions, status and diagnostics under an approved machine state.
07	**Keep the as-left record**	Record the new identity, changes, test results and remaining exceptions.

Installed-system relationship

The CI858K01 order identity is a kit: CI858 provides the DriveBus communication function and TP858 supplies its mounting baseplate. The interface sits on the AC 800M CEX-Bus and receives power through that controller connection, so the host configuration and baseplate fit are part of a replacement check.

DriveBus is an optical ABB drive network running at 8 Mbit/s. ABB specifies up to 24 drives on one CI858 and up to two CI858 interfaces on one AC 800M controller. When more than one drive is attached, an NDBU

branching unit forms the required logical bus with physical star connections; the count alone does not define a valid topology.

The interface supports hot swap but offers neither line nor module redundancy, and ABB does not list it for High Integrity controller use. In rolling-mill or paper-machine sectional-drive systems, restore the approved controller configuration, optical paths and node identities, then prove drive status and diagnostics before handing the line back.

04 Commissioning and acceptance

Identity and fit	Confirm exact order code, supplied scope and host position against the approved record.
Power and protection	Verify operating supply, enclosure, grounding and environmental boundary.
Connection continuity	Trace every used connector, cable or optical/network path end to end.
Configuration restore	Restore the documented project, controller setup and node mapping.
Dynamic proof	Test the used functions and diagnostics with the machine in an approved test state.
Handover	Retain marked-up drawings and as-left test evidence with maintenance records.

Acceptance by application

Sectional drive coordination

Connect AC 800M control to multiple ABB drives using an approved DriveBus topology.

Rolling-mill drive systems

Carry drive communication in the controller arrangement designed for sectional mill operation.

Paper-machine control

Support drive-group communication where the installed machine uses AC 800M DriveBus.

Maintenance replacement

Replace the CI858/TP858 kit while retaining the configured controller and optical network identity.

Engineering questions

What should be matched before replacing a CI858K01 3BSE018135R1 kit?	Compare the CI858 and TP858 markings, controller slot and software configuration, drive-node assignment and optical connector layout with the installed assembly. Confirm both kit elements are included in the offer.
What can cause a drive to remain offline after CI858K01 3BSE018135R1 is fitted?	A wrong optical branch, missing NDBU path, changed controller configuration or a drive-node mismatch can prevent communication. Use AC 800M diagnostics and the approved bus map to locate the affected path.
What evidence should be reviewed before accepting CI858K01 3BSE018135R1 in an AC 800M host?	Compare the host processor identity, CEX-Bus allocation and approved engineering configuration with the installed controller record. If the controller is a High Integrity variant, stop the selection and obtain an approved system design.

05 Fault isolation and handover

Drive node absent	Trace that node from AC 800M diagnostic through its optical connector and NDBU branch.
All drives absent	Check the host controller configuration and CEX-Bus seating before replacing multiple drives.

Intermittent optical fault	Inspect connector cleanliness, bend damage and the affected branch; change one path at a time.
Unexpected topology	Compare the physical star at NDBU with the configured logical DriveBus sequence.
Module swap	Record process state and follow the approved hot-swap procedure; confirm node recovery afterwards.
Power concern	Check the CEX-Bus host and interface status rather than adding an external supply.
Capacity concern	Count configured drives and CI858 modules against the documented controller arrangement.

Additional engineer questions

How should the NDBU branch path be proved after replacing CI858K01 3BSE018135R1?	Compare the documented physical star with the configured logical DriveBus sequence, then check every drive node in AC 800M diagnostics. Verify one optical path at a time so a swapped branch is not hidden by a successful link at another node.
What does hot swap mean for CI858K01 3BSE018135R1 during maintenance?	The interface is designed for hot swap, but the controller and process must still follow the approved maintenance procedure. Record drive states, isolate the affected control function as required and verify every node after insertion.
How can an optical DriveBus fault on CI858K01 3BSE018135R1 be isolated?	Inspect the optical connectors and NDBU branch paths, then compare controller diagnostics with drive-node status. Test one documented path at a time under site procedure rather than changing several links blindly.
Why is CI858K01 3BSE018135R1 not a redundant communication path by itself?	ABB specifies neither line nor module redundancy for CI858. Review the process response to loss of this interface and the available maintenance bypass before a live replacement.

Evidence and applicability

ABB AC 800M Communication Interfaces data sheet, 23 September 2026; CI858 product data. CI858 electrical and network values refer to the interface; kit contents refer to the CI858K01 ordering identity.

Additional installation context: ABB System 800xA 7.0 Product Catalog, CI858K01 package identity.

Related product references

Catalog navigation only; these items are not identified as substitutes.

ABB RLM02 3BSE091723R1	Other product reference; confirm the complete installed model.
ABB TU835V1 3BSE013236R1	Other product reference; confirm the complete installed model.
ABB 3BHE021887R0101 UBC717 BE101	Other product reference; confirm the complete installed model.

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